

Claims

What is claimed is:

1. A method for improving signal processing of a mobile receiver located in a vehicle in the presence of multipath distortion, the method comprising the steps of:
 - determining a speed of the vehicle;
 - collecting signal information on a selected received signal that is received by the mobile receiver, the collected signal information providing an indication of the quality of the received signal; and
 - modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.
2. The method of claim 1, wherein the speed of the vehicle is provided by a vehicle sensor.
3. The method of claim 1, wherein the speed of the vehicle is determined from position locations provided by a ground positioning system (GPS) receiver.
4. The method of claim 1, wherein the collected signal information is provided by a signal quality circuit, and wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit.
5. The method of claim 1, wherein a length of the at least one time constant is inversely proportional to the speed of the vehicle.

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6. The method of claim 1, wherein the collected signal information is provided by a signal quality circuit, and wherein the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal.

7. The method of claim 6, wherein the collected signal information also provides an indication of a wideband amplitude modulation (WBAM) level associated with the received signal.

8. The method of claim 1, wherein the collected signal information is provided by a signal quality circuit that includes at least one of an average detector, a peak detector and a full-wave detector.

9. The method of claim 8, wherein at least one output of the at least one of an average detector, a peak detector and a full-wave detector is utilized to initiate at least one of a soft-mute, a high-cut and a stereo noise control function.

10. A mobile receiver that exhibits improved signal processing in the presence of multipath distortion, the mobile receiver being located within a vehicle, the mobile receiver comprising:

- a tuner module;
- a signal quality circuit coupled to the tuner module;
- a memory subsystem for storing information; and
- a processor coupled to the memory subsystem and the signal quality circuit, the processor executing code for causing the processor to perform the steps of:

- determining a speed of the vehicle;

- collecting signal information on a selected signal received by the mobile receiver, wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the

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received signal; and

modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.

11. The receiver of claim 10, wherein the processor is coupled to a vehicle sensor that provides the speed of the vehicle.

12. The receiver of claim 10, wherein the processor is coupled to a ground positioning system (GPS) receiver that provides vehicle locations from which the speed of the vehicle is determined.

13. The receiver of claim 10, wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit.

14. The receiver of claim 10, wherein a length of the at least one time constant is inversely proportional to the speed of the vehicle.

15. The receiver of claim 10, wherein the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal.

16. The receiver of claim 15, wherein the collected signal information also provides an indication of a wideband amplitude modulation (WBAM) level associated with the received signal.

17. The receiver of claim 10, wherein the signal quality circuit includes at least one of an average detector, a peak detector and a full-wave detector.

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18. The receiver of claim 17, wherein at least one output of the at least one of an average detector, a peak detector and a full-wave detector is utilized to initiate at least one of a soft-mute, a high-cut and a stereo noise control function.

19. An automotive subsystem that includes a mobile receiver that exhibits improved signal processing in the presence of multipath distortion, the mobile receiver being located within a motor vehicle, the mobile receiver comprising:

a tuner module;

a signal quality circuit coupled to the tuner module;

a memory subsystem for storing information;

at least one of a vehicle sensor and a ground positioning system (GPS) receiver for providing an indication of the speed of the vehicle; and

a processor coupled to the memory subsystem, the signal quality circuit and the at least one of a vehicle sensor and a ground positioning system (GPS) receiver, the processor executing code for causing the processor to perform the steps of:

determining a speed of the vehicle;

collecting signal information on a selected signal received by the mobile receiver, wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the received signal; and

modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.

20. The subsystem of claim 19, wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit, and wherein a length of the at least one time constant is inversely proportional to the speed of the vehicle.

21. The subsystem of claim 19, wherein the collected signal information provides an indication of at least one of an ultrasonic noise (USN) level associated with the received signal and a wideband amplitude modulation (WBAM) level associated with the received signal.

22. The subsystem of claim 19, wherein the signal quality circuit includes at least one of an average detector, a peak detector and a full-wave detector, and wherein at least one output of the at least one of an average detector, a peak detector and a full-wave detector are utilized to initiate at least one of a soft-mute, a high-cut and a stereo noise control function.

23. A mobile receiver that exhibits improved signal processing in the presence of multipath distortion, the mobile receiver being located within a vehicle, the mobile receiver comprising:

a tuner module;

a signal quality circuit coupled to the tuner module; and

a control circuit coupled to the signal quality circuit, the control circuit performing the steps of:

determining a speed of the vehicle;

collecting signal information on a selected signal received by the mobile receiver, wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the received signal; and

modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.

24. The receiver of claim 23, wherein the control circuit is coupled to a vehicle sensor that provides the speed of the vehicle.

25. The receiver of claim 23, wherein the control circuit is coupled to a ground positioning system (GPS) receiver that provides vehicle locations from which the speed of the vehicle is determined.

26. The receiver of claim 23, wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit.

FIG. 2C